

The File: Contract No: 607, T.O. 2

16 July 1962

25X1A9a

Trip Report - Development of Thermoelectric Generator

25X1A5a1

1. Project Description:

The EC-18 is a thermoelectric generator which is being designed to charge 12 volt nickel-cadmium batteries. The output is 15 watts, thus giving a constant charging current of approximately one ampere. The EC-18 is powered from a kerosene burner and is of small and lightweight construction.

2. Contractual Information:

- a. Initial Cost: \$20,250.00
- b. Initiation Date: 17 June 1960
- c. Completion Date: 17 April 1961 Extensions: 1) 31 July 1961
- d. Deliverable Items: 2 Prototypes 2) 31 August 1962  
3) 15 September 1962

3. Date of Meeting: 9 July 1962

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4. Place of Meeting:

5. Persons Attending:

Agency

Non-Agency

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Mr.

Mr.

Mr.

Mr.

25X1A5a1

6. Contractor's Performance:

- a. On Schedule and Expected to Remain So: No
- b. Within Obligated Funds and Expected to Remain So: Yes
- c. Satisfactory Technical Progress: Yes

**SUBJECT: Development of Thermoelectric Generator**

**7. Project Status:**

25X1A5a1 [REDACTED] has completed the design of the thermoelectric generator which consists of eight banks of two each thermoelectric modules. Each module consists of 100 thermocouples connected in series giving a total of 1600 thermocouples in the generator. The size of the generator is approximately 8" in diameter including cooling fins and approximately 8" high, excluding fuel tank. The kerosene burner is located in the center of the cylinder.

The design of the kerosene burner is not yet completed. A primary design was demonstrated [REDACTED] which produced a sufficient amount of heat to power the generator; however, this burner was very difficult to start and was easily flooded during operation. Therefore, it will be necessary [REDACTED] to redesign the burner to insure ease of starting and continued operation. The screen temperature of the burner is approximately 700° F. The hot junction temperature of the thermocouple is approximately 275° F. The cool junction temperature is approximately 125° F. The burner in its present form is a very efficient burner in that the vaporized kerosene does not give off any smoke or odor.

25X1A5a1 [REDACTED] estimated they would need approximately six to eight weeks to finish the two deliverable models under this contract. Mr. 25X1A5a1 [REDACTED] stated he would submit a request for an extension of time on this contract.

[REDACTED] 25X1A9a

**Distribution:**

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